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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/963,875	09/26/2001	Joel F. Habener	17633/1235	9674

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EXAMINER

BELYAVSKYI, MICHAEL A

ART UNIT	PAPER NUMBER
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1644

DATE MAILED: 12/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/963,875

Applicant(s)

HABENER ET AL.

Examiner

Michail A Belyavskiy

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 October 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 39-43 and 73-83 is/are pending in the application.
- 4a) Of the above claim(s) 74 and 75 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 39-43, 73, 76-83 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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RESPONSE TO APPLICANT'S AMENDMENT

1. Applicant's amendment, filed 10/22/04 is acknowledged.

Claims 39-43 and 73-83 are pending.

Newly submitted claims 74 and 75 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: The invention of the elected group VI, claims 39-43 and 74, now claims 39-43, 73, 76-83 drawn to an isolated, nestin-positive human pancreatic or liver stem cell that differentiates to form insulin-producing beta cell and a pharmaceutical composition comprising said cells. Newly submitted claims 74 and 75 are drawn to a method of isolating a stem cell from a pancreatic islet. These inventions are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case, the product, an isolated stem cells can be made using various cell biology techniques.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 74 and 75 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Claims 39-43, 73, 76-83 drawn to an isolated, nestin-positive human pancreatic or liver stem cell that differentiates to form insulin-producing beta cell and a pharmaceutical composition comprising said cells, are under consideration in the instant application.

2. Applicant's arguments filed 10/22/04 in conjunction with Declaration of Dr. Habener under 37 C.F.R 1.131 has obviated the previous rejection of claims 39-43 and 74 under 35 U.S.C. 102(a) as being anticipated by Zulewski et al. Said arguments and declaration demonstrated that the subject matter of claims 39 – 43 and 74 was conceived prior to the publication of Zulewski et al.

In view of the amendment, filed 10/22/04 the following rejections remain

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3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 37(c) of this title before the invention thereof by the applicant for patent.

4. Claims 39-43, 73, 76-83 are rejected under 35 U.S.C. 102(b) as being anticipated by WO 9715310 or by WO 00/09666 for the same reasons set forth in the previous Office Action, mailed on 12/23/03 .

Applicant's arguments filed on 10/22/04 have been fully considered, but have not been found convincing.

Applicant asserts that : (i) WO'310 teaches a suspension of cells, including stem cells, from a pancreas, but does not include a step wherein nestin-positive human pancreatic stem cells are isolated. Applicant attached Declaration by DR. Habener under 37 C.F.R 1.132, asserting that the percentage of nestin-positive cells in the pancreas is believed to be about 5%.; (ii) WO'666 although describes stem cells , it does not teach how to isolate a pancreatic stem cells as define in the instant application.

Contrary to Applicant's assertion it is the examiner position that WO'310 teaches an isolated nestin-positive human pancreatic stem cells that are not a neural stem cells that can differentiate to form insulin-producing cells. Applicant attention is respectively drawn to page 23, lines 15-30. WO'310 explicitly teaches several methods of isolating pancreatic stem cells from the cell suspension. Declaration by DR. Habener under 37 C.F.R 1.132 stated that the number of nestin-positive cells in the pancreas is in the range of 02 to 5%. However, said numbers are irrelevant since WO'310 teaches that pancreatic stem cells were isolated from non-islet cells of the pancreas. WO'310 teaches a pharmaceutical composition comprising said cells in cultured media or in PBS, that is a physiologically compatible carrier. (see pages 13 and 14 in particular). The method of isolating said cells is substantially similar to that used by applicant (see overlapping pages 22-24 in particular). While WO'310 does not specifically teach that these cells are GLP-1R-positive cells, said cells would inherently be GLP-1R-positive cells, since the cell population taught by WO'310 is identical to that claimed in the instant application. Mere recognition of latent properties in the prior art (i.e. nestin-positive cell is also GLP-1R positive) does not render nonobvious an otherwise known invention. In re Wiseman, 201 USPQ 658 (CCPA 1979). Granting a patent on the discovery of an unknown but inherent function would remove from the public that which is in the public domain by virtue of its

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inclusion in, or obviousness from, the prior art. *In re Baxter Travenol Labs*, 21 USPQ2d 1281 (Fed. Cir. 1991). See M.P.E.P. 2145.

Since the office does not have a laboratory to test the reference isolated nestin-positive human pancreatic stem cells, it is applicant's burden to show that the reference nestin-positive human pancreatic stem cells do not have the functional limitation as recited in the claims. See *In re Best*, 195 USPQ 430, 433 (CCPA 1977); *In re Marosi*, 218 USPQ 289, 292-293 (Fed. Cir. 1983); *In re Fitzgerald et al.*, 205 USPQ 594 (CCPA 1980).

Similarly, it is the Examiner position that WO '666 teaches an isolated nestin-positive human pancreatic stem cells that are not a neural stem cells that can differentiate to form insulin-producing cells. WO '666 teaches that said cells is also GLP-1R positive cells (see entire document, Abstract and pages 13 14, 15 in particular). WO'666 teaches a pharmaceutical composition comprising said cells in cultured media or in PBS, that is a physiologically compatible carrier (see pages 24 and 43 in particular). With regards to Applicant's comments that WO'666 does not teaches **how** to isolate a pancreatic stem cells. It is noted that the instant claims are drawn to a product, i.e . nestin-positive pancreatic stem cells. The patentability of the product does not depend on its method of producing in the absence of evidence of structural difference. Since the office does not have a laboratory to test the reference isolated nestin-positive human pancreatic stem cells, it is applicant's burden to show that the reference nestin-positive human pancreatic stem cells do not have the functional limitation as recited in the claims. See *In re Best*, 195 USPQ 430, 433 (CCPA 1977); *In re Marosi*, 218 USPQ 289, 292-293 (Fed. Cir. 1983); *In re Fitzgerald et al.*, 205 USPQ 594 (CCPA 1980).

Claims 43, 77, 80 and 81 are included because the claimed functional limitation would be inherent properties of an isolated cells taught by W0 9715310 or by WO 00/09666 because the referenced cells are the same as claimed and would inherently be able to differentiates to insulin-producing cells. Said insulin -producing cells are the only beta cells to which nestin-positive human pancreatic stem cells can differentiate in the absence of evidence of structural difference.

The reference teaching anticipates the claimed invention.

5. Claims 39-43, 73 and 76-83 are rejected under 35 U.S.C. 102(e) as being anticipated by W0 01/39784 or by WO 02/086107 for the same reasons set forth in the previous Office Action, mailed on 12/23/03 .

Applicant's arguments filed on 10/22/04 have been fully considered, but have not been found convincing.

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Applicant asserts that : (i) the attached statement indicating that the inventors of the WO'784 and the inventors of the instant application were, at the time each of the inventions were made, subject to an obligation of assignment to the same person; (ii) WO' 107 although discloses a method of selecting nestin-positive cells from embrioid bodies, does not teach a method of isolating a stem cell from a pancreas as claimed.

Contrary to Applicant's assertion, it is noted that in Applicant's arguments filed on 10/22/04 there was not attached statement of common ownership of the WO'784 and the instant application.

WO'784 teaches an isolated nestin-positive human pancreatic stem cells that are not a neural stem cells that can differentiate to form insulin-producing cells. (see entire document, Abstract and pages 3 and 10 in particular). WO'784 teaches a pharmaceutical composition comprising said cells admixed with a physiologically compatible carrier (see page 39 in particular). The method of isolating said cells is substantially similar to that used by applicant (see overlapping pages 26-28 in particular). While WO'784 does not specifically teach that these cells are GLP-1R-positive cells, said cells would inherently be GLP-1R-positive cells, since the cell population taught by WO'784 is identical to that claimed in the instant application. Since the office does not have a laboratory to test the reference isolated nestin-positive human pancreatic stem cells, it is applicant's burden to show that the reference nestin-positive human pancreatic stem cells do not have the functional limitation as recited in the claims. See *In re Best*, 195 USPQ 430, 433 (CCPA 1977); *In re Marosi*, 218 USPQ 289, 292-293 (Fed. Cir. 1983); *In re Fitzgerald et al.*, 205 USPQ 594 (CCPA 1980).

With regards to the issue that WO'107 does not teach a method of isolating a stem cell from a pancreas as claimed. It is noted that the instant claims are drawn to a product, i.e . nestin-positive pancreatic stem cells. The patentability of the product does not depend on its method of producing in the absence of evidence of structural difference. Moreover, contrary to Applicant's assertion , WO'107 does not restrict selecting nestin-positive cells **only** from embrioid bodies. WO'107 teaches that the term " stem cells" denotes an undifferentiated adult or somatic cells and further the term stem cells can includes cells of human or animal tissues thus including pancreatic stem cells. (see page 8 in particular). Since the office does not have a laboratory to test the reference isolated nestin-positive human stem cells, it is applicant's burden to show that the reference nestin-positive human stem cells do not have the functional limitation as recited in the claims. See *In re Best*, 195 USPQ 430, 433 (CCPA 1977); *In re Marosi*, 218 USPQ 289, 292-293 (Fed. Cir. 1983); *In re Fitzgerald et al.*, 205 USPQ 594 (CCPA 1980).

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Claim 43 is included because the claimed functional limitation would be inherent properties of an isolated cells taught by WO'107., because the referenced cells are the same as claimed and would inherently be able to differentiate to insulin-producing cells. Said insulin –producing cells are the only beta cells to which nestin-positive human pancreatic stem cells can differentiate in the absence of evidence of structural difference.

The references teaching anticipates the claimed invention.

The following new ground of objection is necessitated by the amendment filed 10/22/04

6. Claims 77 is objected to in being dependent upon itself.

7. Claims 76 and 79 are objected to in being dependent upon non-elected claim 75.

Appropriate corrections are required.

8. No claim is allowed.

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

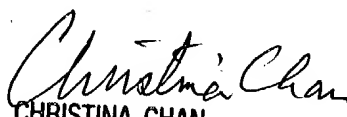
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10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michail Belyavskyi whose telephone number is 571/ 272-0840. The examiner can normally be reached Monday through Friday from 9:00 AM to 5:30 PM. A message may be left on the examiner's voice mail service. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Chan can be reached on 571/ 272-0841 .

The fax number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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